

18 November 1963

MEMORANDUM FOR: Chairman, Technical Development Committee

THROUGH : Executive Secretary, TDC STATOTHR

SUBJECT : Staff Study - [REDACTED] Proposal to Include a Film Accumulator and Two 20,000 Foot Film Spools with the HTA/5 Processor Under Contract 6273/100,242-63

1. PROBLEM:

To provide a film accumulator as an integral part of the HTA/5 Processor to facilitate continuous processing of roll film without interruption of the processing cycle for splicing or roll changeover; and to provide adjustable spools for film feed and film take-up respectively, to accommodate film lengths up to 20,000 feet, in any width from 70mm to 9½ inch.

2. FACTS:

The HTA/5 roll film processor (under contract) is designed to accommodate all widths of roll film from 70mm to 9½ inches, and employs a new concept of film transport in which the exposed film passes through the various chemical solutions and through the dryer over non-rotating liquid and air bearings in lieu of revolving rollers. This system permits the film to be transported through the entire processing cycle from feed to take-up without touching either the emulsion or base side of the film and with almost total elimination of dimensional film stress.

3. DISCUSSION:

a. When the processor was first conceived it was envisioned that the unit would be required to process only one reel of film at any one time. Under this operating mode the machine could be stopped at the end of a film run long enough to splice on another roll. More recently, however, it was determined that the processor would be required to process continuously with no interruption of the processing cycle, and that provision should be made to accumulate a sufficient quantity of film slack between the feed spool and the first solution tank to allow at least a one minute time period for changing film spools and film-end splicing without interrupting or interfering with the processing cycle. Failure to provide a film accumulator would require stopping the machine each time it became necessary to splice on a new roll of film or leader. Stopping of the machine during the processing cycle would in all cases result in loss or damage to imagery and could not be tolerated.

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b. When the original design parameters of the processor were established it was assumed that standard Air Force film spools would be available for direct adaption to the processor for film feed and film take-up. It has subsequently been learned that no standard Air Force film spool exists that can be properly adapted to the HTA/5 processor for accommodation of all film widths in extreme lengths. As a standard procedure to maximize processing quality and to minimize problems during the processing cycle all film is inspected for type and possible physical damage, prior to processing. This operation affords the opportunity to assemble miscellaneous lengths into more manageable long-run spool lengths. Since no standard spool exists that can accommodate variable film widths in extreme lengths it becomes mandatory that such a spool be developed as a part of the processor for film feed and take-up.

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c. The [REDACTED] (developer of the HTA/5 Processor) proposes to design, fabricate and furnish the following units with the processor.

(1) One film accumulator compartment of modular and stainless steel construction between the film feed module and the developer module. The accumulator will provide an automatically adjustable 20 foot film accumulation (slack) to allow a one minute change over period for splicing on a new spool of film or leader. Design of the accumulator will be in keeping with the air bearing transport concept of the processor.

(2) Two film spools capable of accommodating 20,000 foot film lengths and readily adjustable in width from 70mm to 9½ inches. The film spools will be compatible with film carts furnished with the processor.

d. The contractor proposed cost of \$23,848 for the accumulator and adjustable film spools has been technically reviewed and appears reasonable.

4. CONCLUSIONS:

a. For full and proper fulfillment of requirements placed upon the HTA/5 Processor it is mandatory that the accumulator and film spools be provided as proposed by the contractor.

b. The accumulator and film spools proposed were not included in the original scope of the contract, and clearly represent new work.

5. RECOMMENDATION:

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It is recommended that the [REDACTED] proposal be accepted and that the subject contract be amended to include the proposed new work in the amount of \$23,848.00.

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